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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

GONZALEZ, JULIO C

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 05/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/695,604

Applicant(s)

HINTZ ET AL.

Examiner

Julio C. Gonzalez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-21 is/are rejected.
- 7) ☒ Claim(s) 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action: /

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4, 5, 7-12, 14-17, 19 and 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Rice et al in view of Yamaguchi.

Rice et al discloses a system comprising an operational amplifier having input resistor connecting the input to a signal indicative of an alternator (see figure 10), a feedback resistor 10K connected between the input and output, a processor 12 coupled to the output and an A/D converter 24 being connected to the processor (see figure 1A) and a transformer 162 being connected to the input of the amplifier.

However, Rice et al does not disclose an switching element in parallel with a resistor.

On the other hand, Yamaguchi discloses for the purpose of reducing amplification error due to analog and resistance elements, an operational amplifier 1 having an input resistor  $R_{in}$ , a feedback resistor  $R_1$ , connected between the input and output, an adjustment resistor  $R_2$  and a switching element SW2 coupled in

series between the input and output, in parallel with the feedback resistor (see figure 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design an amplifier connected to an analog to digital converter as disclosed by Rice et al and to use a feedback resistor, an adjustment resistor and a switch for the purpose of reducing amplification error due to analog and resistance elements as disclosed by Yamaguchi.

3. Claims 6 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rice et al in view of Yamaguchi and Denaci.

Rice et al discloses a system comprising an operational amplifier having input resistor connecting the input to a signal indicative of an alternator (see figure 10), a feedback resistor 10K connected between the input and output, a processor 12 coupled to the output and an A/D converter 24 being connected to the processor (see figure 1A) and a transformer 162 being connected to the input of the amplifier. However, Rice et al does not disclose an switching element in parallel with a resistor.

On the other hand, Yamaguchi discloses for the purpose of reducing amplification error due to analog and resistance elements, an operational amplifier

1 having an input resistor  $R_{in}$ , a feedback resistor  $R_1$ , connected between the input and output, an adjustment resistor  $R_2$  and a switching element SW2 coupled in series between the input and output, in parallel with the feedback resistor (see figure 1).

However, neither Rice et al nor Yamaguchi disclose an A/D converter being connected to the processor.

On the other hand, Denaci discloses for the purpose of controlling starter acceleration thus increasing the likelihood of having successful ignition, an A/D converter 48 being connected between the processor 26 and the amplifier 46 (see figure 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design an amplifier connected to an analog to digital converter as disclosed by Rice et al and to use a feedback resistor, an adjustment resistor and a switch for the purpose of reducing amplification error due to analog and resistance elements as disclosed by Yamaguchi and to use an A/D converter for the purpose of controlling starter acceleration thus increasing the likelihood of having successful ignition.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rice et al in view of Yamaguchi and Ashley et al.

Rice et al discloses a system comprising an operational amplifier having input resistor connecting the input to a signal indicative of an alternator (see figure 10), a feedback resistor 10K connected between the input and output, a processor 12 coupled to the output and an A/D converter 24 being connected to the processor (see figure 1A) and a transformer 162 being connected to the input of the amplifier. However, Rice et al does not disclose an switching element in parallel with a resistor.

On the other hand, Yamaguchi discloses for the purpose of reducing amplification error due to analog and resistance elements, an operational amplifier 1 having an input resistor  $R_{in}$ , a feedback resistor  $R_1$ , connected between the input and output, an adjustment resistor  $R_2$  and a switching element SW2 coupled in series between the input and output, in parallel with the feedback resistor (see figure 1).

However, neither Rice et al nor Yamaguchi et al disclose the use of a transistor as a switch.

On the other hand, Ashley et al uses FET 115 in series with a resistor 114 for the purpose of having an equal voltage drop and improving stability in the circuit.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design an amplifier connected to an analog to digital converter as disclosed by Rice et al and to use a feedback resistor, an adjustment resistor and a switch for the purpose of reducing amplification error due to analog and resistance elements as disclosed by Yamaguchi and to use an A/D converter for the purpose of controlling starter acceleration thus increasing the likelihood of having successful ignition and to use FET transistors as switches for the purpose of having an equal voltage drop and improving stability in the circuit as disclosed by Ashley et al.

5. Claims 3 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rice et al in view of Yamaguchi and ordinary skill in the art.

Rice et al discloses a system comprising an operational amplifier having input resistor connecting the input to a signal indicative of an alternator (see figure 10), a feedback resistor 10K connected between the input and output, a processor 12 coupled to the output and an A/D converter 24 being connected to the processor (see figure 1A) and a transformer 162 being connected to the input of the amplifier. However, Rice et al does not disclose an switching element in parallel with a resistor.

On the other hand, Yamaguchi discloses for the purpose of reducing amplification error due to analog and resistance elements, an operational amplifier 1 having an input resistor  $R_{in}$ , a feedback resistor  $R_1$ , connected between the input and output, an adjustment resistor  $R_2$  and a switching element SW2 coupled in series between the input and output, in parallel with the feedback resistor (see figure 1).

Rice et al and Yamaguchi disclose the claimed invention except for specific threshold ranges.

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to come with those optimum ranges that the applicant discloses, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In *re Aller*, 105 USPQ 233.

### ***Allowable Subject Matter***

6. Claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.



*Response to Arguments*

7. Applicant's arguments filed 2/12/02 have been fully considered but they are not persuasive.

Rice et al discloses a generator controller 10, which includes a processor 12 wherein the current of the generator is controlled (column 1, lines 66 - column 2, lines 1-3).

Also, the controller is disclosed to use a field transistor 28' which can be set off or on depending on the need and a gate drive 50. Both of such devices can be able to function as switches (column 5, lines 35-42; column 6, lines 9-11). Moreover, other switches are used in conjunction with the generator (column 5, lines 60, 61; column 6, lines 34-37). Respectfully, it is known that transistors can be used as switches. Rice et al further discloses that a switch is used in combination with the generator and the processor (column 7, lines 35-50). Also, Rice et al teaches that an analog signal like a voltage is converted to a digital signal through an analog-to-digital converter so a processor can be able process the signal (column 8, lines 11-14, column 11, lines 8-10). Furthermore, current transformers 160, 162 are disclosed to be placed between the generator and the input resistor (column 10, lines 57-64). Rice et al does teaches that amplifiers can be used in combination with a processor and switching elements based on current levels (column 2, lines

1-3). Moreover, respectfully, anyone with ordinary skill in the art would know that an amplifier with a feedback resistor (see figure 10, AR 101 & 10k feedback resistor) may be able to supply different levels of amplifications.

8. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Rice et al teaches the used of feedback resistors and amplifiers and Yamaguchi provides a way for improving amplifications errors in an operational amplifier.

9. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a processor using a differential amplifier and the operational amplifier intended to provide different levels of amplification) are not recited in the rejected

claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Also, with regards to claims 4, 5, 8, 9 and 11-13, it should be emphasized that "apparatus claims must be structurally distinguishable from the prior art." MPEP 2114. In *re Danly*, 263 F. 2d 844, 847, 120 USPQ 528, 531 (CCPA 1959) it was held that apparatus claims must be distinguished from prior art in terms of structure rather than function. In *Hewlett-Packard Co v Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990), the court held that: "Apparatus claims cover what a device is, not what it does." (emphases in original). To emphasize the point further, the court added: "An invention need not operate differently than the prior art to be patentable, but need only be different" (emphases in original).

That is, in an apparatus claim, if a prior art structure discloses all of the structural elements in the claim, as well as their relative juxtaposition, then it reads on the claim, regardless of whether or not the function for which the prior art structure was intended is the same as that of the claimed invention.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is (703) 305-1563. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371.

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The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



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Jcg

May 8, 2002